Team ID: MDS

School Name: Monte del Sol Charter School

Area of Science: Agriculture

Program: Netlogo 6.02

Project Title: Spread of Herbicide through Crops.

Dicamba is a broad spectrum herbicide first registered in 1967. At sufficient concentrations, the plant outgrows its nutrient supplies and dies. According to the EPA, Dicamba has damaged over 3.6 million acres of soybean crops, which is a total of 4% of all soybean crops planted in the US. 2,708 complaints have been filled by farmers in over two dozen states and range from not just soybeans but other crops like tomatoes, watermelon, cantaloupe, and pumpkins to name a few. The biggest problem is the spread of the herbicide from crops that are genetically modified to tolerate the herbicide to nearby fields that cannot. Dicamba has been used since the 1960s, but, late last year, it was approved to spray the herbicide “over the top” when the soybean has already sprouted instead of applying it before they sprout.

We will be using the Netlogo program to model the spread of Dicamba through various neighboring crop fields. We will compare the “over the top” application to applying the herbicide when the crop is still a seed. We will add in factors that would cause the herbicide to spread such as wind patterns, farm machinery, and irrigation.

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